expression comprising administering to the subject a GM4,6D modulator, thereby treating said subject having an inflammatory disorder.

22. (NEW) A method for treating a subject having a disorder characterized by aberrant cellular fucosylation comprising administering to the subject a GM4,6D modulator, thereby treating said subject having a disorder characterized by aberrant cellular fucosylation.

23. (NEW) A method for modulating an inflammatory response in a subject comprising administering to the subject a GM4,6D modulator, thereby modulating an inflammatory response in said subject.

24. (NEW) A method for modulating cellular fucosylation in a subject comprising administering to the subject a GM4,6D modulator, thereby modulating cellular fucosylation in said subject.

25. (NEW) The method of claim 22, wherein the disorder is a disorder associated with aberrant fucosylation of glycoconjugates.

26. (NEW) The method of either of claims 21 or 22, wherein the disorder is a disorder selected from the group consisting of: arthritis, transplant rejection, asthma, sepsis, reperfusion injury, stroke, infection, and leukocyte adhesion deficiency II.

27. (NEW) The method of any one of claims 21-24, wherein the GM4,6D modulator is capable of modulating GM4, 6D polypeptide activity.

28. (NEW) The method of claim 27, wherein the GM4,6D modulator is an inhibitor of GM4,6D activity.

29. (NEW) The method of claim 27, wherein the GM4,6D modulator is an anti-GM4,6D antibody.

30. (NEW) The method of claim 27, wherein the GM4,6D modulator is a GM4,6D polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:3, or a fragment thereof having GM4,6D activity.

31. (NEW) The method of claim 27, wherein the GM4,6D modulator is a polypeptide encoded by a naturally occurring allelic variant of the nucleotide sequence of SEQ ID NO:1.

32. (NEW) The method of claim 27, wherein the GM4,6D modulator is a polypeptide having GM4,6D activity, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes with the nucleotide sequence of SEQ ID NO:1 in either 4X SSC at 65°C or 50% formamide and 4X SSC at 42°C.

33. (NEW) The method of any one of claims 21-24, wherein the GM4,6D modulator is capable of modulating GM4,6D nucleic acid expression.

34. (NEW) The method of claim 33, wherein the GM4,6D modulator is a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, or a fragment thereof .

35. (NEW) The method of claim 33, wherein the GM4,6D modulator is a nucleic acid molecule comprising a naturally occurring allelic variant of the nucleotide sequence of SEQ ID NO:1.

36. (NEW) The method of claim 33, wherein the GM4,6D modulator is a nucleic acid molecule encoding a polypeptide having GM4,6D activity, wherein the